1-1-2012

Oceans beyond boundaries: environmental assessment frameworks

Robin M. Warner

University of Wollongong, rwarner@uow.edu.au

Oceans beyond boundaries: environmental assessment frameworks

Abstract

The obligation to conduct environmental impact assessment (EIA) of activities with the potential for significant impact on the marine environment within and beyond national jurisdiction has attained customary international law status. The related but broader process of strategic environmental assessment (SEA) is also applied to plans, policies and programmes with the potential for significant impact on the marine environment in many national jurisdictions and in a transboundary context. The application of EIA and SEA for activities with the potential for significant impact on marine areas beyond national jurisdiction (ABNJ) has been much more ad hoc. This commentary reviews the initiatives being taken by the international community to develop a more comprehensive legal and institutional framework for EIA and SEA of activities affecting ABNJ. It examines the role of sectoral environmental assessment in ABNJ, as well as the potential role of global guidelines for EIA and SEA of activities affecting ABNJ.

Keywords

era2015

Disciplines

Law

Publication Details

R. M. Warner, 'Oceans beyond boundaries: environmental assessment frameworks' (2012) 27 (2) International Journal of Marine and Coastal Law 481-499.

MARTINUS NIJHOFF PUBLISHERS

The International Journal of Marine and Coastal Law 27 (2012) 481–499

THE INTERNATIONAL JOURNAL OF MARINE AND COASTAL LAW

brill.nl/estu

Oceans beyond Boundaries: Environmental Assessment Frameworks

Robin Warner*
Associate Professor, Australian National Centre for Ocean Resources and Security, University of Wollongong, Australia

Abstract
The obligation to conduct environmental impact assessment (EIA) of activities with the potential for significant impact on the marine environment within and beyond national jurisdiction has attained customary international law status. The related but broader process of strategic environmental assessment (SEA) is also applied to plans, policies and programmes with the potential for significant impact on the marine environment in many national jurisdictions and in a transboundary context. The application of EIA and SEA for activities with the potential for significant impact on marine areas beyond national jurisdiction (ABNJ) has been much more *ad hoc*. This commentary reviews the initiatives being taken by the international community to develop a more comprehensive legal and institutional framework for EIA and SEA of activities affecting ABNJ. It examines the role of sectoral environmental assessment in ABNJ, as well as the potential role of global guidelines for EIA and SEA of activities affecting ABNJ.

Keywords
environmental impact assessment (EIA); strategic environmental assessment (SEA); areas beyond national jurisdiction (ABNJ)

Introduction

Environmental impact assessment (EIA) is a well-established component in the suite of tools for marine environmental protection in coastal and marine areas within national jurisdiction. Prior to commencement, activities with the potential for significant impacts on the marine environment are subjected to an environmental assessment process that includes public consultation and the development of mitigation measures. The obligation to conduct EIA of activities with the potential for significant impact on the marine environment both within and beyond national jurisdiction has attained customary international law status.[1] The related but broader process of strategic environmental

[1] International Tribunal of the Law of the Sea (ITLOS), Advisory Opinion on Responsibilities and Obligations of States Sponsoring Persons and Entities with Respect to Activities in the

 DOI: 10.1163/157180812X631070

assessment (SEA) is also applied to plans, policies and programmes with the potential for significant impact on the marine environment in many national jurisdictions.[2] In the transboundary context, frameworks for EIA and SEA of marine projects, plans, policies and programmes are being implemented in some regions.[3] The application of EIA and SEA for activities, plans, programmes and policies with the potential for significant impact on ABNJ has been much more *ad hoc* in nature. While there has been limited development of environmental assessment frameworks in some sectors, there is no comprehensive set of guidelines or binding instrument for EIA or SEA in these areas at the global level. As existing activities intensify and new activities emerge in ABNJ, there is no default international law framework or network of institutions to assess the potential impacts of these activities on the marine environment in ABNJ. In the context of the Research Report on EIA prepared by the Netherlands Institute for the Law of the Sea (NILOS)—Utrecht University (EIA Report)[4] for the Symposium 'Biological Diversity and Governance of Areas beyond National Jurisdiction' organized by NILOS and the Netherlands Ministry of Economic Affairs, Agriculture and Innovation on 8 July 2011, this commentary will review the initiatives being taken by the international community to develop a more comprehensive legal and institutional framework for EIA and SEA for ABNJ. It will examine the potential role and broad content of guidelines for EIA and SEA of activities, plans, programmes and policies affecting ABNJ. The role of sectoral environmental assessment frameworks and the interaction of global and sectoral processes and institutions will also be reviewed.

Area, 1 February 2011, available online: <http://www.itlos.org/fileadmin/itlos/documents/cases/case_no_17/adv_op_010211.pdf>, p. 44, para. 145. This recent advisory opinion by the ITLOS acknowledged the customary international law status of the obligation to conduct EIAs for activities with the potential for significant impacts on the marine environment, including in marine areas beyond national jurisdiction (ABNJ), such as the Area. In accordance with the relevant legal framework provided by the United Nations Convention on the Law of the Sea (LOSC; adopted on 10 December 1982; entry into force 16 November 1994; 1833 UNTS 396) the present commentary will refer to the high seas and the Area as appropriate where these separate components of ABNJ are intended.

[2] Convention on Biological Diversity (CBD), *Background Document to an Expert Workshop on Scientific and Technical Aspects Relevant to Environmental Impact Assessment in Marine Areas Beyond National Jurisdiction*, UNEP/CBD/EW-EIAMA/1/INF/1/Add.1, 10 November 2009.

[3] N. Craik, *The International Law of Environmental Impact Assessment* (New York: Cambridge University Press, 2008), p. 29.

[4] A.G. Oude Elferink, *Environmental Impact Assessment in Areas Beyond National Jurisdiction*, Report on Research Question 4 of the Study on 'Biological Diversity and Governance of the High Seas' (commissioned by the Netherlands Ministry of Affairs, Agriculture and Innovation) (2011). A revised version of the Report is included as one of the contributions to this Special Issue.

Global Initiatives to Develop Environmental Assessment Frameworks for ABNJ

United Nations General Assembly (UNGA) Initiatives

The impetus to further develop the legal and institutional framework for EIA and SEA in ABNJ has principally arisen within the United Nations General Assembly (UNGA) *Ad Hoc* Open-ended Informal Working Group created to study issues related to the conservation and sustainable use of marine biological diversity beyond areas of national jurisdiction (BBNJ Working Group). This BBNJ Working Group has highlighted EIA as an integral part of conserving marine biodiversity beyond national jurisdiction. At the first meeting of the BBNJ Working Group in 2006, the Co-Chairpersons noted that the conservation and sustainable use of marine biological diversity of ABNJ should be based on the precautionary and ecosystem approaches, using the best available science and prior EIAs.[5] At the second meeting of the BBNJ Working Group in 2008, the Co-Chairpersons provided further endorsement for EIA as a significant element in the conservation of marine biodiversity beyond national jurisdiction, commenting that the UNGA may wish to refer the development and implementation of effective EIAs as a tool for improving ocean management to the BBNJ Working Group for further study.[6] In 2010, the Co-Chairpersons of the BBNJ Working Group identified, as a key issue requiring more background studies, the review of approaches to EIAs, including those undertaken in the context of the International Seabed Authority (ISA) and the Regional Seas Programmes, and to determine commonalities and best practices.[7] In 2011, the Co-Chairpersons recommended to the UNGA that a process be initiated, by the UNGA itself, with a view to ensuring that the legal framework for the conservation and sustainable use of marine biodiversity in ABNJ effectively addresses those issues by identifying gaps and ways forward. These issues would be dealt with through the implementation of existing instruments and the possible development of a multilateral

[5] Report of the *Ad Hoc* Open-ended Informal Working Group to Study Issues Relating to the Conservation and Sustainable Use of Marine Biodiversity Beyond Areas of National Jurisdiction (BBNJ Working Group), 20 March 2006, available online: <http://daccess-dds-ny.un.org/doc/UNDOC/GEN/N06/277/50/PDF/NO627750.pdf?Open Element>, Annex I, para. 5.

[6] Letter from the Co-Chairpersons of the [BBNJ Working Group] addressed to the President of the [UN] General Assembly [(UNGA)], 16 May 2008, available online: <http://daccess-dds-ny.un.org/doc/UNDOC/GEN/N08/344/16/PDF/NO834416.pdf?Open Element>, para. 54 (c).

[7] Letter from the Co-Chairpersons of the [BBNJ Working Group] to the President of the [UNGA], 17 March 2010, available online: <http://daccess-dds-ny.un.org/doc/UNDOC/GEN/N10/277/20/PDF/N1027720.pdf?Open Element>, para. 80(g).

agreement under the UN Convention on the Law of the Sea (LOSC). In particular, it was recommended that the process address, *inter alia*, measures such as EIA. The 2011 UNGA Resolution on Oceans and Law of the Sea endorsed the recommendations of the BBNJ Working Group. The EIA Report also refers to the discussions at the 2011 BBNJ Working Group Meeting, confirming a need for further information on the specifics of EIA in ABNJ.[8] This need could potentially be met by convening further technical workshops on EIA in ABNJ, sponsored by member States and international bodies, such as the Secretariat of the Convention on Biological Diversity (CBD), which would also participate in the BBNJ Working Group process.

Convention on Biological Diversity (CBD) Initiatives

In support of the BBNJ Working Group's study of issues related to the conservation and sustainable use of biodiversity of ABNJ, the Conference of the Parties (COP) of the CBD[9] convened an Expert Workshop on Scientific and Technical Elements of CBD Voluntary Biodiversity-Inclusive EIA Guidelines for Marine Areas beyond National Jurisdiction in Manila in November 2009 (Manila Workshop).[10] This Manila Workshop highlighted ecological, governance and practical differences related to the implementation of EIA and SEA for activities with the potential for significant impacts on marine biodiversity beyond national jurisdiction. Key ecological differences noted in the Manila Workshop Report included:

- The great depth of many ocean ABNJ creates extreme conditions for biodiversity: e.g., pressure changes, lower temperatures and lack of oxygen;
- Most ocean ABNJ have lower primary and secondary productivity, which means that populations and communities can bear lower levels of perturbation without serious adverse impacts;
- Recovery from perturbations for most species and ecosystems in ABNJ is longer than for coastal and terrestrial ecosystems;

---

[8] Oceans and the Law of the Sea; Resolution adopted by the UNGA on 4 December 2011 (A/RES/64/231 of 28 November 2011), para. 167

[9] Convention on Biological Diversity (adopted on 5 June 1992; entered into force 29 December 1993) 1760 UNTS 79.

[10] Report of the Expert Workshop on Scientific and Technical Aspects Relevant to Environmental Impact Assessment in Marine Areas Beyond National Jurisdiction, UNEP/CBD/EW-EIAMA/2, 20 November 2009, available online: http://www.cbd.int/doc/?metting=EWEIAMA-01 (Manila Workshop Report).

- Connectivity of coastal to deepwater ecosystems is likely to be much looser than between ecosystems along the shore; and
- Not as much is known about the migratory and dispersal characteristics of benthic species in ABNJ.[11]

The Manila Workshop Report emphasized the practical difficulties associated with conducting EIAs in ABNJ, including:

- The comparative paucity of data, so that uncertainties are greater and the ability to assess risks is poorer;
- The industry proposing the activity and the national flag State jurisdiction are often far from the marine area affected;
- The conduct of EIA and management, control, monitoring, surveillance and follow-up activity were likely to be more costly and may be less effective for a given budget in these areas;
- Need for capacity building will be greater as "customs of practice" for EIAs in these areas are not established or consistent among "affected parties"; and
- There will be more need for precaution and "learning by doing."[12]

In relation to the governance framework for ABNJ, the Manila Workshop noted its complex and fragmentary characteristics, referring in particular to:

- The different legal framework for ABNJ—high seas (LOSC Part VII) and deep seabed beyond national jurisdiction—the Area (Part XI LOSC and Part XI Implementation Agreement);[13]
- The different institutional framework for ABNJ, including global and regional organizations, as well as flag State jurisdiction, and the fact that cooperation is required between all these components to conserve the biodiversity of ABNJ;
- The UNGA's central role in matters relating to conserving biodiversity of ABNJ;
- The difficulty of defining stakeholders for ABNJ because communities do not have immediate proximity to these areas; and

---

[11] *Ibid.*, Annex II, paras. 3–6.
[12] *Ibid.*, paras. 7–9.
[13] Agreement Relating to the Implementation of Part XI of the United Nations Convention on the Law of the Sea of 10 December 1982, (adopted on 28 July 1994; entered into force 28 July 1996; 33 ILM 1309 (1994)); available online: <http://www.un.org/Depts/los/convention_agreements/texts/unclos/closindxAgree.htm>.

- The variable standards of compliance among States with the international law obligations relating to EIA and SEA.[14]

In addressing the gaps following from these differences, the Manila Workshop principally confined itself to its scientific and technical remit and identified the need for:

- Global and, where appropriate, regional standards for acceptable perturbation;
- Compilation of global experiences on how oceanic ecosystems have responded to past human impacts and natural forces, and how effective mitigation measures have been;
- A better understanding of the connectivity between impacts and ecosystem processes within and beyond national jurisdictions.[15]

For SEA, the Manila Workshop reviewed the CBD's Guidance Document on Biodiversity-Inclusive SEA adopted by the eighth COP CBD in 2006 (Decision VIII/28) and identified elements that were lacking in this Guidance in relation to ABNJ, as well as specific characteristics and ecosystems that must be considered in undertaking SEA in these areas.[16] In its Report, the Manila Workshop highlighted a number of direct and indirect drivers of biophysical and non-biophysical changes to ecosystems that should trigger the conduct of SEAs for plans, programmes and policies affecting ABNJ. These included commercial activities, such as trade and shipping patterns, fisheries, extraction of non-living resources, bioprospecting, climate change mitigation activities, the laying of pipelines and cables on the seabed, waste disposal and technological improvements to navigation, fishing equipment, mapping and visualization capabilities.[17] The Manila Workshop's Report was considered by the tenth COP CBD in 2010. The relevant decision in the COP 10 Report requested the Executive Secretary of the CBD to facilitate the development of voluntary Guidelines for the consideration of biodiversity in EIAs and SEAs in marine and coastal areas using the guidance in Annexes II, III and IV to the Manila Workshop Report, to provide for technical peer-review of the Guidelines and to submit them for consideration to a future meeting of the Subsidiary Body on Scientific, Technical and Technological Advice (SBSTTA) prior

[14] Manila Workshop Report, *supra* note 12, at Annex II, paras. 7–9.
[15] *Ibid.*, paras. 16–18.
[16] *Ibid.*, Annex IV, paras. 8–9.
[17] *Ibid.*, para. 14.

to the eleventh COP CBD in 2012.[18] The decision implicitly recognized the existence of some sectoral EIA processes for activities affecting ABNJ by acknowledging that the Guidelines for marine and coastal areas would be most useful for activities that are currently unregulated with no process for assessing impacts. It also requested that Guidelines be developed for all marine and coastal areas, rather than simply for ABNJ, emphasizing the interconnections between ocean ecosystems across jurisdictional boundaries. This ongoing work in the CBD to establish best practice guidelines on the scientific and technical elements of biodiversity-inclusive EIA and SEA for marine and coastal areas fulfils an important part of the need identified in the BBNJ Working Group for more clarity on EIA and SEA in ABNJ. This needs to be supplemented, however, with a comprehensive governance structure that underpins the implementation of EIA and SEA in ABNJ and captures ongoing and emerging activities which are not covered by an existing environmental assessment framework.

Role and Content of EIA and SEA Guidelines or Instrument for ABNJ

The EIA Report concludes with a list of issues which could be taken into account in drafting global Guidelines for EIA and SEA of activities, plans, programmes and policies with the potential for significant impact on ABNJ.[19] This section of the commentary provides additional perspectives on the role and content of such Guidelines. They could perform the role of a best practice model for States sponsoring activities and transnational companies involved in activities in these areas. The CBD Voluntary Guidelines on Biodiversity-Inclusive EIA and the draft Guidance on SEA currently perform this type of function, but with an emphasis on the terrestrial and coastal context of EIAs and SEAs.[20] An UNGA Resolution endorsing EIA and SEA Guidelines for ABNJ as best practice guidance and calling on all States to implement them for all existing and new activities under their jurisdiction and control could be proposed through the BBNJ Working Group process. At a later stage and with support from member States of the United Nations, the Guidelines could

[18] Report of the Tenth Meeting of the Conference of the Parties to the [CBD], UNEP/CBD/COP/10/27, 20 January 2011, Annex, Decision X/29, para. 50, available online: <http://www.cbd.int/cop10/doc/>.

[19] Oude Elferink, *supra* note 4 at pp. 27–28.

[20] CBD, *Biodiversity in Impact Assessment. Background Document to Decision VIII/28 of the Convention on Biological Diversity. Voluntary Guidelines on Biodiversity-Inclusive Impact Assessment*, available online: <http://www.cbd.int/doc/publications/cbd-ts-26-en.pdf>.

evolve into a binding instrument which would perform the additional function of prescribing EIA and SEA processes for new and existing activities not already subject to a sectoral environmental assessment process.

To be effective, this type of instrument would need an established governance structure to evaluate EIAs and SEAs and administer these processes from screening through to post-EIA monitoring and assessment. A practical approach might involve regional oceans management organizations with responsibility for proximate ABNJ, assuming carriage of such EIAs and SEAs for their respective regions. Essentially the EIA and SEA instrument would introduce a default system of EIA and SEA for activities not covered by sectoral environmental assessment processes. This type of regional oceans governance structure could be multifunctional, performing marine spatial planning roles, as well as EIA and SEA functions, and collaborating with other global and regional organizations active in those ABNJ.[21] States and global and regional organizations with functional responsibilities for activities affecting ABNJ in particular regions could be encouraged to form alliances/networks to collaborate and harmonise EIA processes and related issues such as marine spatial planning. There is already precedent for such a regional grouping in the OSPAR Convention's[22] network of alliances with organizations, such as the North East Atlantic Fisheries Commission (NEAFC), the International Maritime Organization (IMO) and the ISA, underpinned by memoranda of understanding.[23] These regional alliances or networks could perform an important role in filling knowledge gaps and providing capacity building and technology transfer for EIAs and SEAs in particular ABNJ. Partnerships between more established regional alliances and less developed regional alliances could also be initiated.

The obligation to conduct EIA of activities with the potential for significant impact on the marine environment is articulated in the provisions of many global and regional instruments, including the LOSC, the CBD and Regional Seas Conventions.[24] The International Tribunal of the Law of the Sea has

---

[21] A similar concept for regional oceans management organizations is discussed in R. Rayfuse and R. Warner, "Securing a Sustainable Future for the Oceans Beyond National Jurisdiction: The Legal Basis for an Integrated, Cross-Sectoral Regime for High Seas Governance in the 21st Century (2008) 23(3) *International Journal of Marine and Coastal Law* 399–421.

[22] Convention for the Protection of the Marine Environment of the North-East Atlantic (adopted on 22 September 1992; entered into force 25 March 1998); (1993) 32 ILM 1068.

[23] OSPAR, *International Cooperation*, (available at: http://www.ospar.org/content/content.asp?menu=0006000000000_000000_000000).

[24] LOSC, Art. 206; CBD, Art. 14; States Parties to Regional Seas Conventions are typically responsible for developing EIA guidelines, legislation and processes that prevent or minimize harmful effects on the Convention Area with the assistance of competent global, regional and

confirmed the customary international law status of this obligation.[25] Global guidelines on EIA should set out the content of the international law obligation to conduct EIAs of activities with the potential for significant impact on the marine environment beyond national jurisdiction. While SEA is less well entrenched in customary and conventional international law, States should also be urged to apply this process to plans, policies and programmes under their jurisdiction or control with the potential for significant impact on the marine environment beyond national jurisdiction. The application to ABNJ of related international environmental law principles, such as the precautionary approach and the ecosystem-based management approach, should also be explained. In addition, the generally accepted stages of EIA and SEA processes should be described in global Guidelines for ABNJ, together with ecological, practical and governance factors relevant to their application.

The Manila Workshop Report provides some guidance on how EIA Guidelines can be adapted to reflect ecological and practical factors relevant to ABNJ in its annotated version of the existing CBD Voluntary Guidelines on Biodiversity-Inclusive EIA. The various stages of the EIA process considered in the Manila Workshop Report are:

- Screening to determine which projects/activities require an EIA;
- Scoping to identify which potential impacts are relevant to assess, to identify alternative options that avoid, mitigate or compensate for adverse impacts on marine biodiversity and to derive terms of reference for the EIA;
- Assessment and evaluation of impacts and development of alternatives;
- Reporting—the Environmental Impact Statement (EIS) or EIA Report, including an Environmental Management Plan and a non-technical summary for the general audience;
- Decision-making on whether to approve the project; and
- Monitoring, compliance, enforcement and environmental auditing.[26]

---

sub-regional organizations. In most cases, the Convention Area is limited to marine areas within the national jurisdiction of parties, although some Regional Seas Conventions include ABNJ in their scope of application. The scope of application of the 1986 Convention for the Protection of the Natural Resources and Environment of the South Pacific Region (adopted on 24 November 1986, entered into force on 22 August 1990); (1987) 26 ILM 38, the OSPAR Convention and the 1995 Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean (Barcelona Convention) (adopted on 10 June 1995; entry into force 9 July 1996) extend to ABNJ.

[25] ITLOS Advisory Opinion, *supra* note 1.

[26] Manila Workshop Report, *supra* note 12, para. 5.

At the screening stage of the process, the Manila Workshop Report noted that screening decisions for activities in ABNJ would be made with more incomplete knowledge of and data on ecosystems, species and habitats for assessment and evaluation. These decisions could be made by global or regional organizations with functional responsibilities related to the proposed activities, such as regional fisheries management organizations (RFMOs). Screening mechanisms should also take into account relevant characteristics of the particular marine ABNJ, including the presence of ecologically and biologically significant areas (EBSAs) or vulnerable marine ecosystems (VMEs).[27]

During the scoping phase of the EIA, the Manila Workshop Report noted that regional and global organizations with functional responsibilities related to particular ABNJ would play a critical role in deciding the terms of reference for the EIA. In determining whether to assess particular impacts, they would have to operate with less knowledge of biophysical changes, such as risk of extinction and periods of recovery from perturbation. In defining alternative options that avoid, mitigate or compensate for the potential adverse impacts of activities on ABNJ, decision makers would have a greater range of relocation alternatives in view of the larger spatial scales of high seas ecosystems. On the other hand, off-the-shelf technology alternatives could be fewer and smaller-scale alternatives may be appropriate in some cases where the activity is new and impacts relatively unknown.[28]

At the stage of assessment and evaluation of impacts, the Manila Workshop Report noted that industries operating in ABNJ, such as fisheries, shipping and deep seabed mining, are likely to be the principal source of information. Evaluating impacts and developing alternatives in EIAs for ABNJ is likely to pose significant challenges, due to the lack of environmental baseline information in many cases, the absence of biodiversity strategies and action plans, and the multiple global and regional organizations with responsibilities in the areas of concern.[29]

At the reporting stage, the Manila Workshop Report commented that in an EIS for activities affecting ABNJ, conclusions are likely to be less complete and more uncertain, justifying a need for greater precaution. In view of this uncertainty, post-EIA decision-making options should include not authorizing an activity to proceed if significant adverse impacts on ABNJ are likely. The complexities of governance and decision making in ABNJ were acknowledged in the Manila Workshop Report, including the special challenges involved in conveying all the information to stakeholders, transmitting their

[27] *Ibid.*, Annex III, paras. 6–19.
[28] *Ibid.*, paras. 20–27.
[29] *Ibid.*, paras. 28–31.

comments to decision makers, and reaching decisions acceptable to all interested parties. The Manila Workshop Report acknowledged that precaution would be even more important at the decision-making stage of the EIA process for ABNJ.[30]

The ongoing monitoring of environmental impacts is an essential component in Environmental Management Plans. The Manila Workshop Report assessed the monitoring phase of the EIA process as even more critical for ABNJ, as sound baseline information and pre-implementation monitoring would not be feasible for many activities in these areas. It commented that monitoring of effects, contingency planning, and regular evaluation of monitoring activities and their results were particularly important for activities affecting ABNJ and deep seabed ecosystems, especially when linked to a very gradual up-scaling of the activity being assessed. Monitoring of effects was likely to be technically difficult and costly due to the large scales of ecosystems in ABNJ. On the other hand, incremental development of activities by industries may offer opportunities for cost-effective monitoring and stimulate the use of new technologies, such as autonomous underwater vehicles and in-sea gliders.[31]

Overall, developing Guidelines for SEA of plans, programmes and policies affecting ABNJ is likely to be a more complex undertaking than for EIA, with the lack of overarching governance mechanisms in ABNJ contributing to the challenges involved in this exercise. Nevertheless, in situations where an international organization, such as the ISA, is responsible for managing activities with the potential for significant adverse impact on the marine environment in a broad area of ABNJ, such as the Clarion Clipperton Zone (CCZ), a SEA process may become a component of discharging the ISA's obligations under Article 145 LOSC to ensure effective protection for the marine environment from harmful effects arising from activities in the Area. The recent approval of an Environmental Management Plan for the CCZ, including the endorsement of nine areas of environmental interest in the CCZ, by the Council of the ISA, while not strictly the result of a SEA, represents an example of prudent strategic planning for the environmental resilience of this part of ABNJ.[32] Finally, global Guidelines for EIA and SEA could include an obligation for States to report to relevant regional and global organizations in relation to EIAs and SEAs of activities, plans, programmes and policies under their jurisdiction or control affecting ABNJ. Precedents already exist for this type of

---

[30] *Ibid.*, paras. 32–33 and 39–43.

[31] *Ibid.*, paras. 44–48.

[32] *Decision of the Council of the International Seabed Authority Relating to an Environmental Management Plan for the Clarion-Clipperton Zone*, Doc. ISBA/17/C/19 (21 July 2011).

obligation in the London Protocol[33] and for deep seabed mining exploration activities in the Area. This would assist in building up a global picture of environmental impacts on ABNJ and in standardising EIA and SEA processes and responses.

Role of Sectoral EIA Processes for Activities Affecting ABNJ

In addition to global guidelines on EIA and SEA, there will continue to be a need for specific EIA and SEA processes and instruments in sectors of activity which affect marine areas, such as deep sea fishing, deep seabed mining, dumping at sea and marine geo-engineering. Specific implementation of the various stages of EIA and SEA processes for particular sectors of activity is often better dealt with in sectoral instruments or guidelines. As the EIA Report notes, a number of activities in ABNJ are already subject to more specific obligations in respect of EIA.[34] Customs of practice for environmental assessment of activities affecting ABNJ are beginning to develop in some sectors operating beyond national jurisdiction, including deep sea fishing, deep seabed mining, dumping at sea and marine geo-engineering.

Deep Sea Fishing

In the fisheries sector, the UN Fish Stocks Agreement requires States to assess the impacts of fishing, other human activities and environmental factors on target stocks and species belonging to the same ecosystem or associated with or dependent upon the target stocks, to develop data collection and research programmes to assess the impact of fishing on non-target and associated or dependent species and their environment, and to adopt plans that are necessary to ensure the conservation of such species and to protect habitats of special concern.[35] This obligation is elaborated in the 2009 Food and Agriculture

---

[33] Protocol to the 1972 Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter (London Protocol (LP); adopted on 7 November 1996, entered into force 24 March 2003); (1997) 36 ILM 7.

[34] Oude Elferink, *supra* note 4 at p. 25.

[35] United Nations Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks (Fish Stocks Agreement; adopted on 4 August 1995; entered into force 11 December 2001), <http://www.un.org/Depts/los/convention_agreements/texts/fish_stocks_agreement/CONF164_37.htm>, Arts. 5(d) and 6(3)(d).

Organization's (FAO) Deep Sea Fishing Guidelines,[36] which were developed to help States and RFMOs and arrangements implement a call from the UNGA to prevent significant adverse impacts on VMEs or not to authorize the bottom fishing activity to proceed.[37] In the Guidelines, significant adverse impacts are defined as those that compromise ecosystem integrity (i.e., ecosystem structure or function) in a manner that:

(i) impairs the ability of affected populations to repair themselves;
(ii) degrades the long-term natural productivity of habitats; and
(iii) causes, on more than a temporary basis, significant loss of species richness, habitat or community types.[38]

The Guidelines also specify that impacts should be evaluated individually, in combination, and cumulatively.[39] They call for States to conduct assessments of individual bottom fishing activities, and to adopt measures to prevent significant adverse impacts on VMEs. These procedures include identifying areas or features where VMEs are known or likely to occur, identifying the location of fisheries in relation to these areas and features, and then developing data collection and research programmes to assess the impact of fishing on target and non-target species and their environment.[40] The Guidelines list the characteristics of VMEs that should be subject to assessments and give examples of potentially vulnerable species groups, communities and habitats, as well as features that potentially support them.[41]

Dumping at Sea

For States Parties to the London Convention, dumping of non-prohibited substances at sea, including in ABNJ, is only allowed subject to the requirements of prior EIA, permitting and ongoing monitoring set out in Annex III of the Convention.[42] For States Parties to the London Protocol, dumping of all waste and other matter is prohibited, except for eight listed categories of

[36] International Guidelines for the Management of Deep Sea Fisheries in the High Seas, 2009, <http://www.fao.org/docrep/011/0816t/0816t00.htm>.
[37] Sustainable fisheries, including through the 1995 [Fish Stocks Agreement] and related instruments; Resolution adopted by the UNGA on 8 December 2006 (A/RES/61/105 of 6 March 2007), paras. 80–91.
[38] Manila Workshop Report, *supra* note 12, at p. 4, para. 17.
[39] *Ibid.*
[40] *Ibid.*, pp. 9–11.
[41] *Ibid.*, p. 4, paras. 14–16.
[42] Convention for the Prevention of Marine Pollution by Dumping of Wastes and Other Matter

substances, the dumping of which is nevertheless subject to the stringent assessment, permitting and ongoing monitoring requirements of Annex 2 of the Protocol.[43] Any application for a permit to dump these listed substances must be accompanied by an assessment of the sea disposal options, including information on waste characteristics, conditions at the proposed dump site, fluxes and proposed disposal techniques, and must specify the potential effects on human health, living resources, amenities and other legitimate uses of the sea. These assessments can apply to dumping of wastes in ABNJ, as well as to areas within national jurisdiction.

Ocean Fertilization

In May 2007, the Parties to the London Convention and London Protocol were confronted for the first time with proposals for large-scale commercial ocean iron fertilization projects. Some U.S. and Australian companies were promoting ocean fertilization as a tool to buffer ocean acidity, replenish the marine food chain and sequester CO_2, while inviting investors and green co-sponsors to finance their activities in return for the provision of carbon credits to offset investors' CO_2 emissions. A "statement of concern" adopted by the Scientific Groups of the London Convention and London Protocol in July 2007 "noted with concern the potential for [ocean fertilization activities] to have negative impacts on the marine environment and human health" and recommended that the Parties to the London Convention and London Protocol consider the issue with a view to its regulation.[44] This "statement of concern" was endorsed by the States Parties during their joint annual meeting in November 2007, where the Parties agreed that while it was within the purview of each State to consider proposals for ocean fertilization projects on a case-by-case basis in accordance with the Convention and/or Protocol, knowledge about the effectiveness and potential environmental impacts of open ocean fertilization was currently insufficient to justify large-scale projects. They also agreed that ocean fertilization fell within their regulatory competence and that they would "further study this issue from scientific and legal perspectives with a view to its regulation."[45]

(London Convention (LC); adopted on 29 December 1972, entered into force 30 August 1975); (1976) UKTS 43, Art. IV and Annex III.

[43] London Protocol, Art. 4 and Annex 2.

[44] LC/LP Scientific Groups, "Statement of Concern Regarding Iron Fertilization of the Ocean to Sequester CO_2," Doc. LC-LP.1/Circ.14, 13 July 2007.

[45] International Maritime Organization (IMO), *Report of the 29th Consultative Meeting of the Contracting Parties to the [London Convention] and 2nd Meeting of the Contracting Parties to the [London Protocol] thereto*, IMO Doc. LC29/LP2 (2007).

The ongoing discussions in the London Convention/London Protocol Scientific Groups concerning ocean fertilization prompted the ninth COP CBD in May 2008 to request Parties and urge other governments:

> in accordance with the precautionary approach to ensure that ocean fertilization activities do not take place until there is an adequate scientific basis on which to justify such activities, including assessing associated risks, and a global transparent and effective control and regulatory mechanism is in place for those activities; with the exception of small-scale scientific research within national jurisdiction.[46]

An exception was noted in the case of "small-scale scientific research studies within coastal waters," which:

> should only be authorized if justified by the need to gather specific scientific data, and should also be subject to a thorough prior assessment of the potential impacts of the research studies on the marine environment, and be strictly controlled, and not be used for generating and selling carbon offsets or any other commercial purposes.[47]

In October 2008, the Parties to the London Convention and London Protocol adopted a non-binding Resolution agreeing that, "given the present state of knowledge, ocean fertilization activities, other than legitimate scientific research, should not be allowed" and that: "ocean fertilization activities, other than legitimate scientific research, should be considered as contrary to the aims of the Convention and Protocol and not currently qualify for any exemption from the definition of dumping."[48]

They identified the need for preparatory work on technical and scientific issues and agreed to further consider a potentially legally binding resolution or an amendment to the London Protocol at their 2009 session. An intersessional Technical Working Group on Ocean Fertilization was established to develop an Assessment Framework for Scientific Research Involving Ocean Fertilization to provide a mechanism for assessing, on a case-by-case basis, whether proposals for ocean fertilization activities represent legitimate

---

[46] CBD COP 9 Decision XI/16 on Biodiversity and Climate Change (Presented at the Ninth Meeting of the States Parties to the [CBD] (COP 9), Bonn, 19–30 May 2008) Section C, <http://www.cbd.int/decisions/cop9/?m=COP-09&id=11659&lg=0> on 27 August 2008.

[47] *Ibid*.

[48] Resolution LC/LP.1 (2008), *Report of the 30th Consultative Meeting of the Contracting Parties to the [London Convention] and 3rd Meeting of the Contracting Parties to the [London Protocol] thereto*, IMO Doc. LC30/16, 9 December 2008, paras. 4.1–4.18 and Annexes 2 and 5.

scientific research.[49] The draft Assessment Framework[50] was reviewed by the Scientific Groups in June 2009 and adopted as a work in progress.[51] The draft was tabled again during an extraordinary session of the Scientific Groups in October 2010,[52] where further revisions were made, and it was adopted, by consensus, in a non-binding Resolution at the October 2010 Meeting of the Parties.[53]

The Assessment Framework (AF) describes itself as a "tool [...] to determine if the proposed activity constitutes legitimate scientific research that is not contrary to the [LC/LP] aims."[54] It sets out a two-stage process, involving an initial assessment and an environmental assessment. The purpose of the initial assessment is to determine whether the proposed ocean fertilization activity constitutes legitimate scientific research. To qualify as such, the proposed activity must have "proper scientific attributes," which means:

1. The proposed activity should be designed to answer questions that will add to the body of scientific knowledge. Proposals should state their rationale, research goals, scientific hypotheses and methods, scale, timings and locations, with clear justification for why the expected outcomes cannot reasonably be achieved by other methods;
2. Economic interests should not influence the design, conduct and/or outcomes of the proposed activity. There should not be any financial and/or economic gain arising directly from the experiment or its outcomes. This should not preclude payment for services rendered in support of the experiment or of the future financial impacts of patented technology;
3. The proposed activity should be subject to scientific peer review at appropriate stages in the assessment process. The outcomes of the scientific peer review should be taken into consideration by the Contracting Parties. The peer-review methodology should be stated and the out-

---

[49] *Ibid.*, at para. 2.3.

[50] Draft Assessment Framework for Scientific Research Involving Ocean Fertilization (Draft Assessment Framework), IMO Doc. LC/SG-CO2 3/5, Annex 2.

[51] Report of the Thirty-Second Meeting of the Scientific Group of the London Convention and the Third Meeting of the Scientific Group of the London Protocol, IMO Doc. LC/SG 32/15, paras. 2.18–2.29.

[52] See Draft Assessment Framework, IMO Doc. LC/SG/ES.2, 30 July 2010.

[53] 32nd Consultative Meeting of Contracting Parties to the [London Convention] and 5th Meeting of Contracting Parties to the [London Protocol] thereto: Assessment Framework for Scientific Research Involving Ocean Fertilization, Resolution LC-LP.2 (2010).

[54] Assessment Framework for Scientific Research Involving Ocean Fertilization, LC 32/15, available online: http://ww.imo.org/SharePoint/blastDataHelper.asp/data_id%3D30641/AssessmentFramework-annex6-LC-32-15.pdf, para. 1.2.

comes of the peer review of successful proposals should be made publicly available, together with the details of the project; and

4. The proponents of the proposed activity should make a commitment to publish the results in peer-reviewed scientific publications and include a plan in the proposal to make the data and outcomes publicly available in a specified time frame.[55]

Proposals that meet these criteria may then proceed to the next stage, the environmental assessment, which includes requirements for risk management and monitoring. The environmental assessment stage entails a number of components, including the problem formulation, a site selection and description, an exposure assessment, an effects assessment, risk characterization and risk management.[56] Only after completion of the environmental assessment is a decision made on whether the proposed activity constitutes legitimate scientific research that is not contrary to the aims of the London Convention and/London Protocol. If so, the activity is permitted to proceed.[57]

Deep Seabed Mining

Deep seabed mining activities beyond national jurisdiction are subject to a well-developed framework of EIA obligations. An exploration contractor must submit an assessment of the potential environmental impacts of proposed activities with an application for approval of a plan of work, together with a description of a programme for oceanographic and baseline environmental studies in accordance with the rules, regulations and procedures adopted by the ISA.[58] This obligation is reiterated in Regulation 18(c) and (d) of the ISA's Polymetallic Nodules Regulations, which provides that applicants for exploration contracts must submit a preliminary assessment of the possible impact of the proposed exploration activities on the marine environment and a description of proposed measures for the prevention, reduction, and control of possible impacts on the marine environment to the ISA.[59] Regulation 20(b), (c) and (d) of the Polymetallic Sulphides Regulations is even more stringent, requiring applicants for exploration contracts to provide a description of the programme for oceanographic and environmental baseline studies that would

---

[55] *Ibid.*, para. 2.2.
[56] *Ibid.*, Section 3, pp. 6–18.
[57] *Ibid.*, para. 4.4.
[58] Part XI Implementing Agreement, Annex, para. 7.
[59] Regulations for Prospecting and Exploration of Polymetallic Nodules, available online: <http://www.isa.org.jm/files/documents/EN/Regs/PN-en.pdf>.

enable an assessment of the potential environmental impact, including but not restricted to the impact on biodiversity of the proposed exploration activities, a preliminary assessment of the possible impact of the proposed exploration activities on the marine environment, and a description of proposed measures for the prevention, reduction and control of possible impacts on the marine environment.[60] The Recommendations for the Guidance of Contractors for the Assessment of the Possible Environmental Impacts Arising from Exploration for Polymetallic Nodules in the Area, updated by the ISA's Legal and Technical Commission in 2010, specify the particular activities of exploration contractors that are subject to EIA.[61] The sponsoring State for an exploration contractor is under a due diligence obligation to ensure that an exploration contractor fulfils all these obligations.[62]

Conclusions

Global Guidelines or a binding international law instrument on EIA and SEA for activities, plans, programmes and policies with the potential to significantly affect the marine environment beyond national jurisdiction could perform two important roles. The first is as a best practice model for EIA and SEA processes for ABNJ and the second is as a default mechanism to capture existing or emerging activities not covered by sectoral environmental assessment processes. Work has already begun on defining the scientific and technical elements, as well as some of the practical considerations, involved in EIA and SEA of activities, plans, programmes and policies affecting the marine environment including ABNJ through the development of the CBD draft Guidelines on Biodiversity-Inclusive EIA for Marine and Coastal Areas. Further impetus could be given to this process by endorsing these Guidelines in an UNGA Resolution.

Taking the next step to a binding legal instrument would involve support for and the establishment of a network of global and regional alliances with functional responsibilities for particular ABNJ. EIA and SEA linked with identification of EBSAs and VMEs and associated marine spatial planning

---

[60] Regulations for Prospecting and Exploration of Polymetallic Sulphides; available online: <http://www.isa.org.jm.files/documents/EN/Regs/PolymetallicSulphides.pdf>.

[61] Recommendations for the Guidance of Contractors for the Assessment of the Possible Environmental Impacts Arising from Exploration for Polymetallic Nodules in the Area, ISBA/16/LTC/7 (2 November 2010), para. 13.

[62] ITLOS Advisory Opinion, *supra* note 1, at pp. 43–44, paras. 141–143; Polymetallic Nodules Regulations, Regulation 31(6) and Polymetallic Sulphides Regulations, Regulation 33(6).

would form a part of these responsibilities. In the interim, some sectors operating in ABNJ are creating customs of practice for EIA and SEA of activities such as deep sea fishing, dumping of waste, ocean fertilization and deep seabed mining. These can be drawn on in developing assessment frameworks for new and emerging activities in these areas and will continue to be an integral element in the environmental assessment seascape of ABNJ. Ongoing efforts at the global level and in key sectors to establish and implement environmental assessment frameworks for ABNJ also contribute to achieving the broader goal of conservation and sustainable use of marine biodiversity.